REMARKS

In response to the final Office action mailed February 18, 2004, please consider the remarks presented herein. Reconsideration and/or further prosecution of the application is respectfully requested. No new matter is added herein.

Three claim sets are pending herein:

- independent claim 1 with dependent claims 6, 7, 9, and 10;
- independent claim 13 and dependent claims 14-18; and
- independent claim 21 with dependent claim 22.

Note, claims 5, 8, 19, 20, and 23-25 are canceled herein without prejudice to limit the issues, and applicants reserve the right to represent one or more of these claims in this or a continuation application.

Independent claims 1 and 21 stand rejected under 35 USC § 102(b) as being anticipated by Sheu, US Patent 5,848,227. Applicants respectfully traverse these rejections as to be anticipated, all element, limitations and recited structure must be shown by the prior art reference.

Claim 1 recites "a plurality of input components, a plurality of output components, one or more interconnection networks, and a broadcast component" and operations performed using these elements. Proper claim construction requires that these elements be separately identifiable in the prior art reference. *See,* Gaus v. Conair Corporation, (Fed. Cir., No. 03-1295, April 1, 2004). The Office action considers the "combined system of a plurality of switch fabric buses and the PE unit" of FIG. 3 as the broadcast component, yet also considers the plurality of switch fabric buses of FIG. 3 as one or more interconnection networks as recited in the claims, the PE units as the plurality of input components, and the PE units as the plurality of output components. Thus, the Office fails to present a *prima facie* case of anticipation as it fails to provide a proper rejection for each and every element, limitation, and recited structure of

claim 1, and its dependent claims 6, 7, 9, and 10. Therefore, these claims are believed to be allowable for at least these reasons.

Similarly, independent claim 21 recites "a plurality of input components; a plurality of output components; and one or more interconnection networks, each of said one or more interconnection networks coupled to each of the plurality of input components and to each of the output components, each of said one or more interconnection networks including a broadcast mechanism configured to receive control packets transported through a portion of said one or more interconnection networks, said control packets each indicating an indication of an error condition, and said broadcast mechanism configured to send a plurality of packets through at least a second portion of said one or more interconnection networks to the plurality of input components." The Office equates the broadcast component as a "combined system of a plurality of switch fabric buses and the PE unit," yet claim 21 requires said one or more interconnection networks to include the broadcast mechanism. In order to anticipate this claim, the interconnection networks must include the PE unit which it does not as presented by the Office action. Even if the Office action construed Sheu in such a manner, then the PE's could not be applied as either the plurality of input components or the plurality of output components. Thus, the Office fails to present a *prima facie* case of anticipation as it fails to provide a proper rejection for each and every element, limitation, and recited structure of claim 21, and its dependent claim 22. Therefore, these claims are believed to be allowable for at least these reasons.

Further, in regards to dependent claim 22, the Office action uses a second reference "Soloway '092" to reject the additional limitations recited in claim 22, which is prohibited by the MPEP for an anticipation reference as its independent claim 21 is rejected based on Sheu, US Patent 5,848,227. For at least this sole reason, the Office action fails to provide a proper rejection for each and every claim and therefore a new Office action is required. Moreover, this statement of the rejection fails to comply with the MPEP for presenting a *prima facie* case of obviousness. *See,* MPEP §706.02(j) "Contents of a 35 USC 103 Rejection". Additionally, FIG. 3

of Soloway '092 is a flow chart, and applicants do not understand how it teaches at least two interconnection networks. Applicants contacted Examiner Moore to clarify whether there was an error in the statement of the rejection so applicants could further prosecution and knowingly respond to the rejection, but Examiner Moore refused to simply clarify this rejection and demanded a written response. Thus, applicants, in accordance with Examiner Moore's instructions, interpret and respond to the rejection as presented in the Office action, and the rejection presented in the Office action fails to anticipate claim 22. Applicants respectfully request claim 22 be allowed or a proper rejection be presented so applicants can be given notice of the rejection and knowingly respond as required by fundamental fairness, due process, and the MPEP.

Dependent claims 6, 7, 9, and 10 are rejected under 35 USC § 103(a) as being obvious over Sheu, US Patent 5,848,227, in view of Soloway, US Patent 5,265,092. First, dependent claims 6, 7, 9, and 10 are believed to be allowable for at least the reasons presented *supra* in relation to independent claim 1 from which they depend.

Next, applicants are confused by the recitation of the rejection as Figs. 1 and 2 of Sheu '227 do not show what is stated in the Office action. Once again, applicants tried to clarify what the Office action meant, but Examiner Moore refused to clarify.

Next, the rejection fails to address all the limitations of recited claim 6, which requires "... updating one or more status data structures *in response to receiving a notification of the error*" (*emphasis added*). Note, "the error" has antecedent basis in independent claim 1 as being detected in the packet switch. The teachings of Sheu is directed to a single brouter 20 (FIGs. 2-6, col. 1, line 65 et seq.), while Soloway is directed to updating routing information between a network of switches (i.e., "intermediate systems" per Soloway, col., 1, line 49). Note, the use of the word "switch" in Soloway is semantically different than a processing element within the brouter / switch of Sheu, and the Office action apparently fails to follow the teachings of these references in terms of the different definitions and usage of these terms consistent with the teachings of the references. Link state protocol messages are used to communication routing

information among switches, not within a single switch. Soloway, col., 1, lines 44-63. Thus, even the combination of Sheu with Soloway would not have the recited elements, limitations, and structure recited in claim 6. The Office action apparently agrees with this as it states that the data structures would be updated in response to a received LSP packet (i.e., from another switch), which means it does not update in response to "an indication of the error" as recited in the claims.

Moreover, applicants respectfully traverse the suggestion in the Office action that one skilled in the art would implement LSP and the teachings of Soloway inside a single switch to communicate error conditions within components of the switch, and especially not for the stated motivation of a loop-free routing of data packets within a switch. Packet loops occur when there is an inconsistency in the routing data structures (i.e., how to reach a node, and the costs associated with such routes) typically caused by a long delay in communicating the updated routing information and convergence among network nodes. Sheu provides buses with broadcast capability so that updates within the brouter could be simultaneously communicated between packet engines, and thus there would never be the problem of routing loops within brouter 20. Thus, there is no motivation to implement LSP to communicate detected error conditions within brouter 20 to other components of brouter 20.

For at least these additional reasons, claim 6 is believed to be allowable.

Claim 7 depends from claim 6 and was rejected based on the same reasons stated for the rejection of claim 6. Therefore, claim 7 is believed to be allowable for at least the same reasons presented for allowance of claim 1 and 6, from which it depends.

Claim 8 is canceled without prejudice to as it appears to be the same as, or close to that of claim 7, and applicants want to a possible double patenting issue.

Claim 9 depends from claim 6 and is therefore believed to be allowable for at least the same reasons presented for allowance of claim 1 and 6. Moreover, the claim 9 is directed to, and recites paths "through" the packet switch, while the Office action cites "channels" which are

external to each of the packet switches and used to connect two switches. For at least these reasons, claim 9 is believed to be allowable.

Claim 10 depends from claim 1 and is believed to be allowable for at least the same reasons presented for allowance of claim 1.

For at least these reasons, independent claim 1 and its pending dependent claims 6, 7, 9 and 10 and independent claim 22 and its pending dependent claim 22 are believed to be allowable.

In regards to the remaining claim set consisting of independent claim 13, and its dependent claims 14-18: original independent claim 13 and dependent claims 14, 15, 17 and 18 stand rejected under 35 USC § 103(a) as being unpatentable over Teraslinna, US Patent 5,229,990, in view of Iino, US Patent 6,418,115. Original dependent claim 16 stands rejected under 35 USC § 103(a) as being unpatentable over Teraslinna, US Patent 5,229,990, in view of Iino, US Patent 6,418,115 as applied to independent claim 13, and further in view of Azuma, US Patent 6,430,150.

First, applicants respectfully submit that the Office is providing new grounds of rejections for claims 13-18, as it fails to rely on its rejections provided in the September 8th Office action, and thus, the February 18, 2004 Office action was prematurely made final.

The Office action on page 17 equates Nodes 340 to 389 of Teraslinna as the plurality of interconnection networks, and explains for the first time in the paragraph that spans the bottom of page 3 to the top of page 4 that a first network is Stage 1 (nodes 340, 341, 348, 349) and a second network as Stage two (nodes 350, 351, 358 and 359) as shown in Teraslinna in FIG. 1; and then continues that a first interconnection network [sic] as a network between node 340 (at Stage 1) to node 350 (at Stage 2), and second interconnection networks as a network between node 341 (at Stage 1) to node 351 (at Stage 2) as shown in Teraslinna in FIG. 1.

The Office action on page 17 equates a plurality of input components to lines 100-1 to 159-1 and a plurality of output components to lines out 100-2 to 159-2.

Independent claim 13 recites "... a plurality of interconnection networks, *each of the plurality of interconnection networks coupled to each of the plurality of input components and to each of the plurality of the output components* to provide a plurality of paths between each of the plurality of input components and the plurality of output components..." (*emphasis added*).

Thus per the application of Teraslinna by the Office action to read on the limitations of claim 13:

- each of the nodes 340 to 389 must be coupled to each of lines 100-1 to 159-1 and to lines out 100-2 to 159-2 which is neither taught nor suggested by the prior art of record;
- each of nodes 340, 341, 348, 349 (first network) must be coupled to each of lines 100-1 to 159-1 and to lines out 100-2 to 159-2 which is neither taught nor suggested by the prior art of record, and each of nodes 350, 351, 358 and 359 (second network) must be coupled to each of lines 100-1 to 159-1 and to lines out 100-2 to 159-2 which is neither taught nor suggested by the prior art of record and in fact no second stage node is coupled to any input or output component as required by original independent claim 13; or
- the network between node 340 (at Stage 1) to node 350 (at Stage 2), and second interconnection networks as a network between node 341 (at Stage 1) to node 351 (at Stage 2) must each be connected to each of lines 100-1 to 159-1 and to lines out 100-2 to 159-2 which is neither taught nor suggested by the prior art of record and in fact no second stage node is coupled to any input or output component as required by original independent claim 13.

For at least these reasons, the Office action fails to present a *prima facie* case of obviousness by providing a rejection of each and every recited claim element, limitation, and structure, and claims 13-18 are believed to be allowable.

Moreover, independent claim 13 recites "wherein the fault data structure of at least one of the plurality of input components includes an indication *of which interconnection networks* the at least one input component may send packets through to reach a particular output component" (*emphasis added*). Iino is directed at changing a route of a transmission path formed in the single interconnection network 1, and not selecting between a plurality of interconnection networks. Even if the Office actions new grounds of rejection provided in the February 18, 2004 Office action is accepted that a first network consists of Stage a (switches 00,01,10,11 at 1st column of Iino FIG. 17A) and a second network consists of Stage b (which comprises the switches 01,01,10,11 [sic] at 2nd column of Iino FIG. 17A), then the it fails to present a *prima facie* case of obviousness. Claim 13 recites "... a plurality of interconnection networks, *each of the plurality of interconnection networks coupled to each of the plurality of input components and to each of the plurality of the output components* to provide a plurality of paths between each of the plurality of input components and the plurality of output components..." (*emphasis added*), and clearly Iino neither teaches nor suggests stage b is coupled to each of the plurality of input components and each of the plurality of output components.

Further, applicants respectfully traverse the motivation used to modify Teraslinna with Iino as the Office action states the motivation being "to decrease the weight/cost of route processing in the network." Applicants respectfully traverse this motivation and make a "demand for evidence" as provided by the MPEP to show (a) why reducing weight is desirous and would lead one to massive and costly changes to the system and (b) that it actually does decrease the cost because there is a substantial cost to making such changes.

Applicants are skeptic that one skilled in the art with an understanding of, or the working system of Teraslinna would think that it was important to reduce the weight of Teraslinna. First, applicants request the Office specify why it reducing the weight is desirous? Was it too heavy for a certain cabinet or for shipping? Wouldn't one skilled in the art think I'll buy a new, heavier duty cabinet or drop ship, or negotiate with carriers for a lower transport rate rather than spending the vast costs associated with changing the design of Teraslinna to accommodate Iino:

i.e., prototyping the new design including writing new control software, testing the new system, manufacturing the new system, developing new methods and procedures, etc.? Applicants suggest that reducing weight is not a proper motivation for making the vast changes, especially with the associated high cost of making such changes.

Moreover, the Office action states that this weight is reduced by removing the spare switches to decrease the weight and size of the switch. However, the principal operation of Teraslinna is to provide N+K sparing, i.e. to have the physically separate spare paths. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious." MPEP § 2143.01. As the MPEP forbids such a combination, applicants respectfully traverse the combination of Teraslinna with Iino.

Dependent claim 14 recites "a broadcast mechanism to receive an indication of a problem within the packet switching system *and to notify the plurality of input components of the problem*" (*emphasis added*). The Office action fails to even address this claim limitation in the rejection of claim 14, rather it states that line circuits 200-269 are notified which are output components as applied by the Office action in claim 13, not *input components* as recited in claim 14.

Moreover, dependent claims 14-16 recite "further comprising a broadcast mechanism". Thus, proper claim construction requires that these elements be separately identifiable in the prior art reference. *See,* Gaus v. Conair Corporation, (Fed. Cir., No. 03-1295, April 1, 2004). The Office action apparently relies on elements in the prior art that are used in the rejection of other elements. Also, the rejection must show all elements, limitations, and structure of a recited claim, including that of its independent and any intervening claims.

Applicants further make a demand for evidence to state what components/elements of Teraslinna the Office regards as the broadcast mechanism. On page 5 it skirts the issue by stating that Teraslinna "notifies the plurality of components of the problem" thus "Teraslinna teaches

broadcast mechanism." However, this fails to specify the corresponding elements, limitations, and structure as required by the MPEP and the claims.

Further in regards to claims 15, the Office action, on page 20, relies on a plurality of interconnection networks which includes a spare switch network 102. However, the motivation for combination of the references for rejection of claims 13-18 is to reduce weight - i.e., to get rid of the spare switch networks. Thus, the Office is inconsistent with its reasoning, and applicants request the rejection be withdrawn.

Claim 16 recites "wherein the broadcast mechanism is located in each of the plurality of interconnection networks" and it depends from claim 14, to which the Office action equates Input Switching Unit 3 as the broadcast component which is directed at changing a route of a transmission path formed in the single interconnection network 1 due to a failure within the single interconnection network 1, and Azuma's multiple nodes in a network adds nothing in overcoming the deficiency of the teachings of Teraslinna and Iino, and the Office action apparently forgets to read all the elements/limitations of a claim together (i.e., a dependent claims' elements/limitations and those of its independent claim and any intervening claims), including, but not limited to the plurality of input components, the plurality of output components, the plurality of interconnection networks, etc.

For at least these reasons and the reasons for allowance of independent claim 13, applicants respectfully request the rejections of claims 13-18 be withdrawn, and claims 13-18 be allowed.

Final Remarks. In view of the above remarks and for at least the reasons presented herein, all pending claims are believed to be allowable over the prior art of record, the application is considered in good and proper form for allowance, and the Office is respectfully requested to issue a timely Notice of allowance in this case. If, in the opinion of the Office, a telephone conference would expedite the prosecution of the subject application, the Office is invited to call the undersigned attorney.

In re LENOSKI ET AL., Application No. 09/519,282
Amendment B

The Commissioner is hereby generally authorized under 37 C.F.R. § 1.136(a)(3) to treat this communication or any future communication in this or any related application filed pursuant to 37 C.F.R. § 1.53 requiring an extension of time as incorporating a request therefore, and the Commissioner is hereby specifically authorized to charge Deposit Account No. 501430 for any fee that may be due in connection with such a request for an extension of time. Moreover, the Commissioner is hereby authorized to charge payment of any fee due any under 37 C.F.R. §§ 1.16 and § 1.17 associated with this communication or any future communication in this or any related application filed pursuant to 37 C.F.R. § 1.53 or credit any overpayment to Deposit Account No. 501430.

Respectfully submitted,
The Law Office of Kirk D. Williams

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By _____ 4/19/2004

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